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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of )  
Shinji TAKEDA et al. ) Atty. Docket No.: TM&K0008  
Serial No. 09/785,486 ) Group Art Unit: 2827  
Filed: February 20, 2001 ) Examiner: D. Graybill  
For: SEMICONDUCTOR DEVICE AND ) July 7, 2003  
PROCESS FOR FABRICATION )  
THEREOF )

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

This is a Supplemental Information Disclosure Statement with regard to the above-identified application. Copies of each of the documents listed in the attached Form PTO/SB/08B are attached.

In addition, the Examiner is advised that the following are related to the above-captioned application: U.S. Patent No. 6,099,678 and U.S. Patent Application Serial Nos. 08/981,702, 09/543,247, 09/616,943, 09/785,194, 09/785,436 and 10/428,126.

Documents D, F, H, I, J, P, Q, S, Z, AA, AD, and AF were cited in the Office Action dated January 4, 1999 (copy attached) in applicants' corresponding Application 08/875,330 (now U.S. Patent 6,099,678). Document D relates to die attach pickup tools. Document F relates to a taping apparatus for a lead frame. Document H relates to a method for combining die attach and lead bond in the assembly of a semiconductor package. Document I relates to a method for attaching a semiconductor die to a leadframe using a thermoplastic covered carrier tape. Document J relates to thermoplastic film die attach adhesives. Document P relates to a multi-chip electronic package module utilizing an adhesive sheet. Document Q relates to an

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apparatus for tape-mounting a semiconductor device. Document S relates to an adhesive tape for electronic parts and liquid adhesive. Document Z relates to a lead-on-chip integrated circuit apparatus. Document AA relates to a method for sticking an insulating film to a lead frame. Document AD relates to rinse aid compositions containing modified acrylic polymers. Document AF relates to an insulating film with improved punching characteristics and lead frame using the same.

Document AN was cited in an Office Action dated May 22, 2000 (copy attached) in applicant's corresponding Application 08/981,702. Document AN relates to electrically conductive bonding films.

Documents L, O, R, AB, AE, AG, AJ, AL, AM, and BI were cited in the Office Action dated June 6, 2002 (copy attached) in applicants' corresponding Application 09/543,247. Document L relates to an electrical laminate with dibasic acid-modified epoxy (meth)acrylate. Document O relates to an epoxy resin molding material for sealing of electronic components. Document R relates to a thermosetting resin composition, cured resin product, prepreg and fiber-reinforced plastic. Document AB relates to an epoxy resin composition. Document AE relates to a naphthalene and or biphenyl skeleton containing epoxy resin composition. Document AG relates to a process for fabricating a crack resistant resin encapsulated semiconductor chip package. Document AJ relates to a process for fabricating a crack resistant resin encapsulated semiconductor chip package. Document AL relates to a process for fabricating a crack resistant resin encapsulated semiconductor chip package. Document AM relates to a heat-resistant adhesive sheet. Document BI relates to electrically conductive resin paste.

Documents B, G, AH, and AK were cited in the Office Action dated December 24,

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2002 (copy attached) in applicants' corresponding Application 09/785,194. Document B relates to high temperature polyamide film laminates and process for preparation thereof. Document G relates to a method for producing carbon fiber-reinforced gypsum models and forming molds. Document AH relates to a semiconductor plastic package, metal plate for said package, and method of producing copper-clad board for said package. Document AK relates to a method of fabricating a semiconductor device.

Document N was cited in the Office Action dated December 26, 2001 (copy attached) in applicants' corresponding Application 09/785,194. Document N relates to adhesive tapes.

Documents K and AC were cited in the Office Action dated October 4, 2002 (copy attached) in applicants' corresponding Application 09/785,436. Document K relates to a method of producing flexible printed-circuit board covered with coverlay. Document AC relates to an adhesive polyimide siloxane composition employable for combining electronic parts.

Document AI was cited in the Office Action dated June 4, 2003 (copy attached) in applicants' corresponding Application 09/785,436. Document AI relates to a laminating method of film-shaped organic die-bonding material, die-bonding method, laminating machine and die-bonding apparatus, semiconductor device, and fabrication process of semiconductor device.

Document W was cited in a European Search Report dated March 24, 2003 (document BV) in applicants' corresponding European Application 03001585.3. Document W relates to resins of low thermal expansivity.

Documents T, U, V, and AU were cited in a European Search Report (document BW) dated December 10, 1998 in a corresponding European Application. Document T relates to a

method for bonding integrated circuit chips. Document U relates to a heat-resistant adhesive for the fabrication of a semiconductor package. Document V relates to a heat-fusible copolymer, and powder, film, laminated heat insulator, electronic module, and capacitor produced from said copolymer, and process for producing the same. Document AU relates to a semiconductor device.

Documents AY and AZ were cited in a corresponding International Application PCT/JP95/02691 in an International Search Report mailed April 2, 1996 (document BU). Document AY relates to a compression bonding device of metal foils and pieces. Document AZ relates to a friction press welding method for aluminum alloy and carbon steel.

The relevance of documents cited in office actions and search reports of corresponding applications is clear from the office actions and search reports respectively.

Documents X, AO, AR, BB, BC, BE, BG, BH, and BK were cited in a corresponding Japanese Opposition for Japanese Patent No. 3215014, document BN. Document E is the U.S. counterpart of JP-64-19735, cited in corresponding Japanese Opposition for Japanese Patent No. 3215014, document BN. Document X relates to a semiconductor device and its manufacture. Document AO relates to a molding method. Document AR relates to a chip holder solder device. Document BB relates to the manufacture of a semiconductor package. Document BC relates to the manufacture of a submounting member. Document BE relates to equipment and method for attaching bonding tape. Document BG relates to an adhesive tape for die bonding. Document BH relates to adhesive tape. Document BK relates to types of rubber and their chemical properties. The relevance of these documents is clear from document BN.

Documents A, C, M, AP, AS, AT, AV, AW, AX, BA, BD, and BF were cited in a

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corresponding Japanese Application 2000-346979 in the Notice of Reason for Refusal mailed on October 22, 2002, document BL. Document A relates to a tape applying device. Document C relates to a tape applying device. Document M relates to semiconductor encapsulating epoxy resin compositions and semiconductor devices. Document AP relates to a semiconductor device and its manufacture. Document AS relates to an apparatus for attaching film. Document AT relates to a hot melt bonding electrically conductive filmy adhesive. Document AV relates to a tab pasting method and device thereof. Document AW relates to an epoxy resin composition for sealing semiconductors and semiconductor devices. Document AX relates to a heat-resistant adhesive material and its application method. Document BA relates to a bonding method for pellet. Document BD relates to a tape adhering device. Document BF relates to a method of manufacturing an adhesive film. The relevance of these documents is clear from document BL.

Documents Y and AQ were cited in a corresponding Japanese Application 7-173493 in the Notice of Reason for Refusal mailed on August 29, 2000, document BQ. Document Y relates to a film applying method. Document AQ relates to a film applying method. The relevance of these documents is clear from document BQ.

Document BT was cited in an Opposition (document BS) raised against corresponding Japanese Patent 3117966. Document BT relates to a plastic reader. The relevance of these documents is clear from document BS.

Document BM is an opposition raised against corresponding Japanese Patent 3187400. Document BO is a European Search Report dated July 15, 2002 in a corresponding European application. Document BR is a Notice of Reason for Refusal for the corresponding Japanese Patent Application 2000-156125. Document BX is a European Search Report dated

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October 28, 1998 in corresponding European Application EP96922225.

It is respectfully requested that the attached documents be considered and officially cited, and that a copy of the Form PTO/SB/08B, initialed by the Examiner to indicate that the documents have been considered, be returned to the applicants.

This information disclosure statement is being filed with the check covering the government fee of \$180.00. The Commissioner is hereby authorized to charge any fee deficiency or any additional fees which may be further required in this application, or credit any overpayment to Deposit Account No. 501281, under an order number which corresponds to the above attorney docket number.

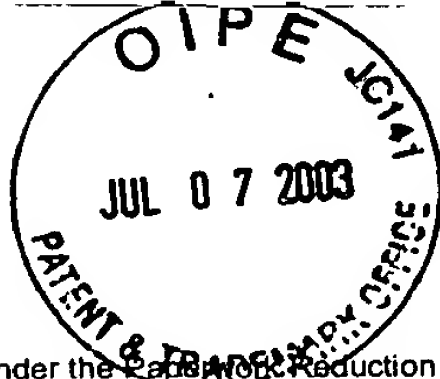
Respectfully submitted,

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<b>Substitute for form 1449/PTO</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(Use as many sheets as necessary)</i>	<b>Complete if Known</b>	
	Application Number	09/785,486
	Filing Date	February 20, 2001
	First Named Inventor	Shinji TAKEDA
	Art Unit	
	Examiner Name	GRAYBILL, D.
Attorney Docket Number	TM&K0008	

Sheet 1 of 7

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	A	US- 4,358,581	11-09-1982	Sutton	
	B	US- 4,543,295	09-24-1985	St. Clair et al.	
	C	US- 4,581,096	04-08-1986	Sato	
	D	US- 4,875,279	10-24-1989	Sakiadis	
	E	US- 4,933,219	06-12-1990	Sakumoto et al.	
	F	US- 4,985,105	01-15-1991	Masuda	
	G	US- 4,990,292	02-05-1991	Hattori et al.	
	H	US- 5,145,099	09-08-1992	Wood et al.	
	I	US- 5,177,032	01-05-1993	Fogal et al.	
	J	US- 5,204,399	04-20-1993	Edelman	
	K	US- 5,234,522	08-10-1993	Suzuki et al.	
	L	US- 5,238,730	08-24-1993	Hanawa et al.	
	M	US- 5,250,637	10-05-1993	Shiobara et al.	
	N	US- 5,277,972	01-11-1994	Sakumoto et al.	
	O	US- 5,319,005	06-07-1994	Hagiwara et al.	
	P	US- 5,360,942	11-01-1994	Hoffman et al.	
	Q	US- 5,432,380	07-11-1995	Jin et al.	
	R	US- 5,476,908	12-19-1995	Kishi et al.	
	S	US- 5,512,628	04-30-1996	Sakumoto et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
	T	EP-285051	10-05-1988	DuPont		
	U	EP-618614	10-05-1994	Hitachi Chem.		
	V	EP-775716	05-28-1997	Kanegafuchi Kagaku Kogyo		
	W	EP-0271736-A1	06-22-1988	Nippon Steel Chemical Co.		
	X	EP-0837498-A1	04-22-1998	Hitachi Chem.		
	Y	JP-6326240	11-25-1994	Hitachi Cable		

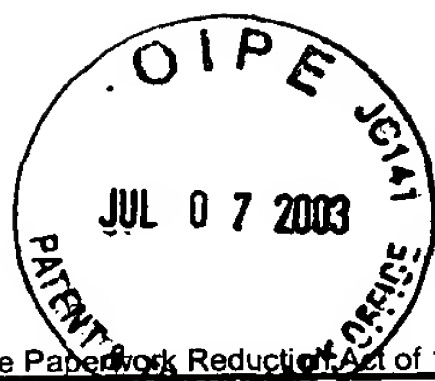
Examiner Signature		Date Considered	
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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Sheet 2

of 7

**Complete if Known**

Application Number	09/785,486
Filing Date	February 20, 2001
First Named Inventor	Shinji TAKEDA
Art Unit	
Examiner Name	GRAYBILL, D.
Attorney Docket Number	TM&K0008

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	Z	US- 5,528,075	06-18-1996	Burns	
	AA	US- 5,635,009	06-03-1997	Kawamura et al.	
	AB	US- 5,659,004	08-19-1997	Takigawa et al.	
	AC	US- 5,728,473	03-17-1998	Inoue et al.	
	AD	US- 5,739,099	04-14-1998	Welch et al.	
	AE	US- 5,827,908	10-27-1998	Arai et al.	
	AF	US- 5,837,368	11-17-1998	Hiroe et al.	
	AG	US- 6,046,072	04-04-2000	Matsuura et al.	
	AH	US- 6,097,089	08-01-2000	Gaku, et al.	
	AI	US- 6,099,678	08-08-2000	Kotato et al.	
	AJ	US- 6,248,613	06-19-2001	Matsuura et al.	
	AK	US- 6,299,513	10-09-2001	Tsuihiji et al.	
	AL	US- 6,372,080	04-16-2002	Matsuura et al.	
	AM	US- 2001/0015484-A1	08-23-2001	Matsuura et al.	
	AN	US- 5,667,899	09-16-1997	Yusa et al.	
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**FOREIGN PATENT DOCUMENTS**

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		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
	AO	JP-3215014	09-20-1991	Seiko Instr.		
	AP	JP-02-256251	10-17-1990	Matusushita		
	AQ	JP-06-326240	11-25-1994	Hitachi Cable		
	AR	JP-1-165635	11-20-1989	NEC Corp.		
	AS	JP-3-228	01-07-1991	HITACHI CABLE		

Examiner  
SignatureDate  
Considered

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**Complete if Known**

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Sheet 3

of 7

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		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
	AT	JP-5-125337	05-21-1993	SUMITOMO BAKELI		
	AU	JP-5-152355	06-18-1993	NITTO DENKO CO		
	AV	JP-5-152386	06-18-1993	SUMITOMO METAL		
	AW	JP-5-152466	06-18-1993	SHIN ETSU CHEM		
	AX	JP-5-335379	12-17-1993	TORAY IND INC		

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Sheet	4	of	7
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		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
	AY	JP-54-12266	01-29-1979	Mitsubishi Elec		
	AZ	JP-54-138371	10-26-1979	NEC HOME ELECTR		
	BA	JP-58-222530	12-24-1983	HITACHI LTD		
	BB	JP-58-57730	04-06-1983	NISSHA PRINTING		
	BC	JP-60-145630	08-01-1985	NEC CORP		
	BD	JP-60-38825	02-28-1985	SUMITOMO METAL		

Examiner Signature		Date Considered	
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Sheet	5	of	7
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Examiner Name	GRAYBILL, D.
Attorney Docket Number	TM&K0008

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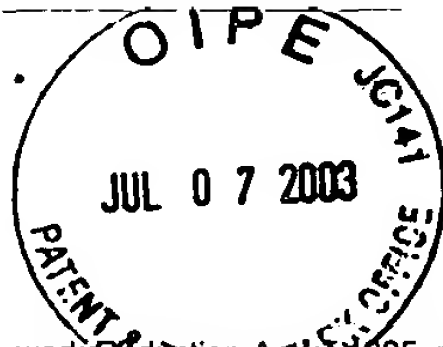
FOREIGN PATENT DOCUMENTS						
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		Country Code <sup>3</sup> ~Number <sup>4</sup> ~Kind Code <sup>5</sup> (if known)				
	BE	JP-6-104300	04-15-1994	FUJITSU LTD		
	BF	JP-62-141038	09-05-1987	Irokawa		
	BG	JP-64-19735	06-12-1990	Tomeogawa Paper		
	BH	JP-64-22744	02-06-1989	Kansai NEC Corp		
	BI	JP-7-90239	04-04-1995	SUMITOMO BAKELI		

Examiner Signature		Date Considered	
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Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	09/785,486
Filing Dat	February 20, 2001
First Named Inventor	Shinji TAKEDA
Art Unit	
Examiner Name	GRAYBILL, D.
Attorney Docket Number	TM&K0008

Sheet

6

of

7

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	BK	"Rubber Elastomer Utility Notes", relates to types of rubber and their chemical structure and properties, July 20, 1991	
	BL	Notice of Reason for Refusal for Japanese Appln. No. 2000-346979 mailed on 10/22/2002 (with English Translation)	✓
	BM	Opposition against Japanese Patent No. 3187400	
	BN	Opposition against Japanese Patent No. 3215014	
	BO	European Search Report dated July 15, 2002	
	BQ	Notice of Reason for Refusal for Japanese Appln. No. 7-173493 mailed on August 29, 2000 (with English Translation)	✓
	BR	Notice of Reason for Refusal for Japanese Appln. No. 2000-156125 mailed on September 19, 2000 (with English Translation)	✓
	BS	Opposition against Japanese Patent No. 3117966	
	BT	Property list, Plastic Reader (1987 15th edition)	

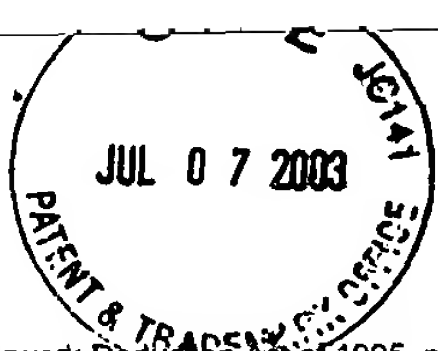
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

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Sheet 7	of 7	Attorney Docket Number	TM&K0008

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Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	BU	International Search Report mailed April 2, 1996 for International Application PCT/JP95/02691	
	BV	European Search Report dated March 31, 2003 in European application 03001585.3	
	BW	European Search Report dated December 10, 1998	
	BX	European Search Report dated October 28, 1998 in European application EP96922225	

Examiner Signature		Date Considered	
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